IN THE CLAIMS:

Please amend the claims such that the pending claims read as follows:

1. (Currently Amended) A method, including steps of

repeatedly reviewing monitoring statistics regarding operation of a file server, said

steps of reviewing being performed at least as often as a selected time period; and

processing said monitoring statistics using a diagnostic software module, in

response to said steps of repeatedly reviewing;

wherein said diagnostic software module ~~whereby a result of said steps of~~

~~processing includes a diagnosis of~~ diagnoses a behavior of said file server ~~and entails cross-layer~~

~~analysis of said monitoring statistics~~ by comparing said monitoring statistics to rules or patterns

representing abnormal states of operation for said file server.

2. A method as in claim 1, wherein said diagnostic software module includes a

pattern matching system and a rule-based inference system.

3. A method as in claim 1, wherein said monitoring statistics include information

gathered by at least a first and at least a second software module, said first and second software

modules being disposed at differing levels within an operating system of said file server.

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4. A method as in claim 1, wherein said monitoring statistics include information gathered by at least one software module within an operating system of said file server.

5. A method as in claim 1, wherein said selected time period is less than 10 seconds.

6. A method as in claim 1, wherein said steps of processing are responsive to a usage profile for said file server.

7. (Previously Amended) A method as in claim 6, wherein said usage profile includes information regarding whether use of said file server includes usage as an ISP, a development environment, or a mail server.

8. (Currently Amended) A method, including steps of

selecting a set of parameters for a first communication protocol;

attempting to communicate, between a point inside a file server and a point outside said file server, using a second communication protocol, said second communication protocol making use of said first communication protocol;

using the second communication protocol to measure ~~reviewing~~ a result of said steps of attempting to communicate; and

altering said set of parameters, in response to <u>said</u> ~~a~~ result ~~of said steps of~~ ~~reviewing wherein said steps of reviewing and altering are performed repeatedly and rapidly so~~ ~~as to try a large number of combinations of protocol parameters in a system of automatic error~~ ~~detection and diagnosis of file servers.~~

9. A method as in claim 8, wherein said steps of altering are performed at least as often as a selected time period of less than ten seconds.

10. A method as in claim 8, wherein said steps of altering are performed repeatedly, whereby a resulting set of parameters allows substantial communication between said first point and said second point.

11. (Previously Amended) A method as in claim 8, wherein said steps of attempting to communicate are performed using at least one hundred differing configurations of said set of parameters.

12. (Cancelled)

13. (Currently Amended) A method, including steps of tracking configuration changes to a file server;

identifying changes in monitoring statistics for said file server that indicate an error or other failure in said file server;

relating said changes in said ~~known~~ monitoring statistics to timing of said configuration changes; and

determining, in response to said steps of tracking and of relating, a configuration change most likely to be responsible for said ~~an~~ error or other failure in said file server.

14. A method as in claim 13, including steps of suggesting activities to reverse said configuration changes so as to place said file server in an operating state.

15. A method as in claim 13, wherein said configuration changes include hardware and software configuration changes.

16. (New) A file server comprising:

an interface to a network;

mass storage accessible through said interface;

a processor that controls access to said mass storage; and

a memory that stores information including instructions executable by said processor, said instructions including steps of (a) repeatedly reviewing monitoring statistics regarding operation of said file server, said steps of reviewing being performed at least as often

as a selected time period, and (b) processing said monitoring statistics using a diagnostic software module, in response to said steps of repeatedly reviewing;

wherein said diagnostic software module diagnoses a behavior of said file server by comparing said monitoring statistics to rules or patterns representing abnormal states of operation for said file server.

17. (New) A file server as in claim 16, wherein said diagnostic software module includes a pattern matching system and a rule-based inference system.

18. (New) A file server as in claim 16, wherein said monitoring statistics include information gathered by at least a first and at least a second software module, said first and second software modules being disposed at differing levels within an operating system of said file server.

19. (New) A file server as in claim 16, wherein said monitoring statistics include information gathered by at least one software module within an operating system of said file server.

20. (New) A file server as in claim 16, wherein said selected time period is less than 10 seconds.

21. (New) A file server as in claim 16, wherein said steps of processing are responsive to a usage profile for said file server.

22. (New) A file server as in claim 21, wherein said usage profile includes information regarding whether use of said file server includes usage as an ISP, a development environment, or a mail server.

23. (New) A file server comprising:

an interface to a network;

mass storage accessible through said interface;

a processor that controls access to said mass storage; and

a memory that stores information including instructions executable by said processor, said instructions including steps of (a) selecting a set of parameters for a first communication protocol, (b) attempting to communicate, between a point inside said file server and a point outside said file server, using a second communication protocol, said second communication protocol making use of said first communication protocol, (c) using the second communication protocol to measure a result of said steps of attempting to communicate; and (d) altering said set of parameters, in response to said result.

24. (New) A file server as in claim 23, wherein said steps of altering are performed at least as often as a selected time period of less than ten seconds.

25. (New) A file server as in claim 23, wherein said steps of altering are performed repeatedly, whereby a resulting set of parameters allows substantial communication between said first point and said second point.

26. (New) A file server as in claim 23, wherein said steps of attempting to communicate are performed using at least one hundred differing configurations of said set of parameters.

27. (New) A file server comprising:

an interface to a network;

mass storage accessible through said interface;

a processor that controls access to said mass storage; and

a memory that stores information including instructions executable by said processor, said instructions including steps of (a) tracking configuration changes to said file server, (b) identifying changes in monitoring statistics for said file server that indicate an error or other failure in said file server, (c) relating said changes in said monitoring statistics to timing of said configuration changes, and (d) determining, in response to said steps of tracking and of relating, a configuration change most likely to be responsible for said error or other failure in said file server.

28. (New) A file server as in claim 27, wherein said instructions further include steps of suggesting activities to reverse said configuration changes so as to place said file server in an operating state.

29. (New) A file server as in claim 27, wherein said configuration changes include hardware and software configuration changes.

30. (New) A memory storing information including instructions, the instructions executable by a processor to control a file server, the instructions including steps of

repeatedly reviewing monitoring statistics regarding operation of said file server, said steps of reviewing being performed at least as often as a selected time period; and

processing said monitoring statistics using a diagnostic software module, in response to said steps of repeatedly reviewing;

wherein said diagnostic software module diagnoses a behavior of said file server by comparing said monitoring statistics to rules or patterns representing abnormal states of operation for said file server.

31. (New) A memory as in claim 30, wherein said diagnostic software module includes a pattern matching system and a rule-based inference system.

32. (New) A memory as in claim 30, wherein said monitoring statistics include information gathered by at least a first and at least a second software module, said first and second software modules being disposed at differing levels within an operating system of said file server.

33. (New) A memory as in claim 30, wherein said monitoring statistics include information gathered by at least one software module within an operating system of said file server.

34. (New) A memory as in claim 30, wherein said selected time period is less than 10 seconds.

35. (New) A memory as in claim 30, wherein said steps of processing are responsive to a usage profile for said file server.

36. (New) A memory as in claim 35, wherein said usage profile includes information regarding whether use of said file server includes usage as an ISP, a development environment, or a mail server.

37. (New) A memory storing information including instructions, the instructions executable by a processor to control a file server, the instructions including steps of

selecting a set of parameters for a first communication protocol;

attempting to communicate, between a point inside said file server and a point outside said file server, using a second communication protocol, said second communication protocol making use of said first communication protocol;

using the second communication protocol to measure a result of said steps of attempting to communicate; and

altering said set of parameters, in response to said result.

38. (New) A memory as in claim 37, wherein said steps of altering are performed at least as often as a selected time period of less than ten seconds.

39. (New) A memory as in claim 37, wherein said steps of altering are performed repeatedly, whereby a resulting set of parameters allows substantial communication between said first point and said second point.

40. (New) A memory as in claim 37, wherein said steps of attempting to communicate are performed using at least one hundred differing configurations of said set of parameters.

41. (New) A memory storing information including instructions, the instructions executable by a processor to control a file server, the instructions including steps of

tracking configuration changes to said file server;

identifying changes in monitoring statistics for said file server that indicate an error or other failure in said file server;

relating said changes in said monitoring statistics to timing of said configuration changes; and

determining, in response to said steps of tracking and of relating, a configuration change most likely to be responsible for said error or other failure in said file server.

42. (New) A memory as in claim 41, wherein said instructions further include steps of suggesting activities to reverse said configuration changes so as to place said file server in an operating state.

43. (New) A memory as in claim 41, wherein said configuration changes include hardware and software configuration changes.

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